Department of Environmental Protection
Bureau of Land & Water Quality August 2004 O&M Newsletter

A monthly newsletter for wastewater discharge licenses, treatment facility operators and associated persons.

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Preventing the Preventable

Each month the DEP staff reviews recent non-compliance problems. In every case, an effort is made to understand the circumstances and consequences of a violation to determine what action the agency should take. While each situation is carefully reviewed on an individual basis, the Department also is striving to ensure fair and uniform responses to all violations. In conducting these reviews, the primary considerations fall into four broad categories:

1. The impact and significance of a violation, including the size, duration and nature of the activity or discharge, environmental risks and policy or precedent issues involved.

2. The causes and circumstances of a violation, examining how foreseeable an event was, the safeguards in place to prevent a problem, immediate actions taken to end a violation and the promptness and thoroughness of reports to DEP.

3. The corrective actions taken, considering how any environmental damage or risk was addressed, the speed of corrections, the quality of corrections, the potential for recurrence of problems and the level of cooperation.

4. The history of past violations, including the number of incidents, their relationship to the present problem and the effectiveness of past steps to prevent violations.

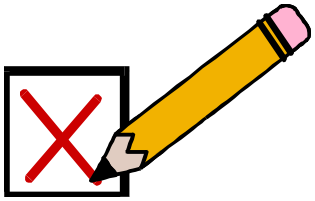
In responding to violations, the DEP has a range of possible actions available, from filing an incident with no immediate action to formal enforcement action that may include proposing an administrative consent agreement or a suit in court.

As compliance problems are reviewed, there is particular concern with violations resulting from conditions that could have been prevented (or greatly mitigated) had normal, prudent steps been taken. Unfortunately, the Department sees too many violations that fall into this category. Some examples of this include equipment not being turned back on after maintenance, alarm systems not being checked regularly and equipment failures due to a lack of basic routine maintenance.

While the Department always attempts to work with facilities to attain the best possible operation, permit holders and operators are **directly** responsible for preventing violations. This is especially true for "preventable" problems such as those examples above, and DEP will be placing more emphasis on addressing them in the future. As has been the practice, inspections, articles, training and other outreach will include information and reminders on ways to prevent violations. <u>If preventable incidents do occur, formal enforcement action will be initiated. This includes preventable incidents that result from actions of contractors, such as those working on pump stations.</u>

Obviously, the best way to avoid the risk of enforcement action is to have in place sound basic controls and programs. All operators/owners should take some time to review their permit conditions, physical facilities, operating plans, SOP's, and the like to make sure the right "foundations" for the best, violation-free operation are in place. As always, if you have questions please contact your assigned DEP inspector.

Dennis Merrill



For Practice

1. The unit of electrical potential is
   a. The coulomb
   b. The volt
   c. The amp
   d. The watt

2. The aeration basins of a conventional activated sludge treatment system have a total volume of 500,000 gallons and the MLSS concentration in that tank is 2,700 mg/L. The secondary clarifiers have a total volume of 255,000 gallons and an average sludge concentration of 5,300 mg/L. The return sludge concentration is 8,750 mg/L. If the operator wants to maintain a 12-day MCRT, approximately how many gallons of sludge should be wasted?
   a. 44,200 gallons
   b. 39,700 gallons
   c. 30,900 gallons
   d. 25,700 gallons

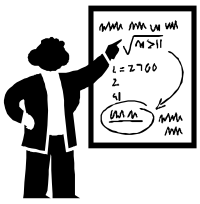
3. Which of the following should always contain a hazard and operability study?
   a. An emergency plan.
   b. The annual budget
   c. A DEP inspector's report
   d. The O&M Manual

4. The most difficult type of solids to remove in a conventional secondary treatment plant are:
   a. Inorganic suspended solids
   b. Organic suspended solids
   c. Inorganic dissolved solids
   d. Organic dissolved solids

Certification News

The Fall 2004 wastewater operator certification exam will be given on November 10, 2004 in the usual locations. Applications for the November exam must be postmarked by September 25, 2004 or hand-delivered to the DEP Augusta office on September 27, 2004.

Dick Darling



Approved Training

August 11, 2004 in Portland ME – Activated Sludge – Sponsored by Penn State Univ. – 814-863-6106 – Approved for 6 hours
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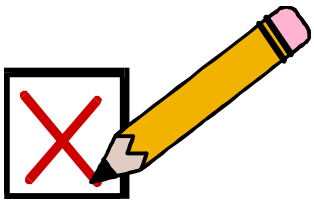
August 12, 2004 in Portland ME – Biological Nutrient Removal – Sponsored by Penn State Univ. – 814-863-6106 – Approved for 6 hours
*****
September 9, 2004 in Augusta ME – Security Session – Sponsored by MRWA – 729-6569 – Approved for 6 hours
*****
September 14, 2004 in South Berwick ME – After SWAP: BMP and Municipal Ordinances to Protect Drinking Water – Sponsored by MRWA – 729-6569 – Approved for 3.5 hours
*****
September 21, 2004 in Hinckley ME – After SWAP: BMP and Municipal Ordinances to Protect Drinking Water – Sponsored by MRWA – 729-6569 – Approved for 3.5 hours
*****
September 28, 2004 in Bangor ME – After SWAP: BMP and Municipal Ordinances to Protect Drinking Water – Sponsored by MRWA – 729-6569 – Approved for 3.5 hours
*****
October 1,8,15,22, 2004 in Waterville ME - Basic WW Treatment (SAC Course Volume 1) – Sponsored by JETCC/NEIWPCC – 253-8020 – Approved for 24 hours
*****
October 5, 2004 in Brunswick ME - Basic Math – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 6, 2004 in TBA - Chlorination Systems – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 7, 2004 in Bangor ME - Basic Math – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 12, 2004 in Norway ME - Basic Math – Sponsored by MRWA – 729-6569 – Approved for 4 hours

Oct 13, 2004 in Brewer, MR Troubleshooting Aerated Lagoons - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
October 13, 2004 in TBA - Chlorination Systems – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 20 & 21, 2004 in Presque Isle ME - North Country Convention - Sponsored by JETCC – 253-8020 – Approved for 11 hours
*****
October 20, 2004 in TBA - Chlorination Systems – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 21 & 22, 2004 in Augusta ME - Laboratory Procedures – Sponsored by JETCC/NEIWPCC – 253-8020 – Approved for 12 hours
*****
October 27, 2004 in TBA - Chlorination Systems – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
October 28, 2004 in Jay ME - Pipe Bursting, a practical and diverse rehab option - – Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
Nov 4, 2004 in Calais, ME - Using Computer Spreadsheets - Sponsored by JETCC – 253-8020 – Approved for 6 hours
Nov 8, 2004 in South Portland ME - Surviving your Lab Inspection - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
Nov 17, 2004 in North Vassalboro ME - Instrumentation Measurement & Control w/ Introduction to SCADA - Sponsored by JETCC – 253-8020 – Approved for 6 hours
November 18, 2004 in Portland ME - Lock Out Tag Out w/ Confined Space Entry Review SCADA - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
November 30-December 1, 2004 in Freeport ME – MRWA Annual Conference – Sponsored by MRWA – 729-6569 - approved for various hours depending on the class
*****
Dec 2, 2004 in Bangor ME - Surviving your Lab Inspection (EPA, DEP Safety) - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
December 7, 2004 in TBA Basic Pipe Installation – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
December 8, 2004 in TBA Basic Pipe Installation – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
December 8, 2004 in Portland ME - Use of polymers in the WWTF (½ day) - Sponsored by JETCC – 253-8020 – Approved for 3 hours
*****
December 8, 2004 in Portland ME - Coagulants & Flocculent in water applications (½ day) SCADA - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****
December 9, 2004 in TBA Basic Pipe Installation – Sponsored by MRWA – 729-6569 – Approved for 4 hours
*****
Dec 14, 2004 in Augusta ME - Hands–on GIS 101for infrastructure management SCADA - Sponsored by JETCC – 253-8020 – Approved for 6 hours
*****

December 14, 2004 in Caribou ME - Basic First Aid – Sponsored by MRWA – 729-6569 – Approved for 8 hours
*****
December 15, 2004 in TBA - Basic First Aid – Sponsored by MRWA – 729-6569 – Approved for 8 hours
*****
December 16, 2004 in TBA - Basic First Aid – Sponsored by MRWA – 729-6569 – Approved for 8 hours
*****
December 21, 2004 in TBA - Basic First Aid – Sponsored by MRWA – 729-6569 – Approved for 8 hours
*****
December 22, 2004 in TBA - Basic First Aid – Sponsored by MRWA – 729-6569 – Approved for 8 hours



Answers to *For Practice:*

1. b. The unit used to designate electrical potential is the Volt.

2. d. MCRT = Total Sludge (in pounds)/Total sludge removed from the system (wasted + effluent TSS)
For this example, assume the effluent TSS is negligible compared to the amount of sludge wasted so:
MCRT = Total Sludge (lbs.) / Wasted Sludge (lbs.).
Manipulating the equation to get the unknown (Sludge wasted) as the answer, we get Sludge Wasted (lbs.)= Total Sludge (lbs.)/ MCRT.
Plugging in the numbers we get:
Sludge Wasted (lbs.) = (0.5 MG X 2,700 mg/L X 8.34 + 0.255 MG X 5,300 mg/L X 8.34) / 12 days
Sludge Wasted (lbs.) = 1878 lbs./day
If the concentration of the waste sludge is 8,750 mg/L, the total gallons of sludge wasted is:
Sludge Wasted (gal) = 2,189 lbs./day / (8,500 mg/L X 8.34) = 0.0257 MG = 25,700 gallons/day.

3. A. the hazards and operability study determines which units in the plant are susceptible to different hazards (such as flooding, earthquake, hurricanes, etc.) And how the loss of those units will affect the operability of the facility as a whole. This study is an important part of any emergency plan.

4. C. Organic dissolved solids and organic suspended solids are absorbed and adsorbed by the microbes in a secondary treatment system and removed when those microbes settles out of the effluent. Suspended inorganic solids usually settle very quickly and are also removed from the effluent. Inorganic dissolved solids are not readily taken up by microbes and do not settle out of the effluent and, therefore, are more likely to pass through a conventional biological treatment system without being removed.

Dick Darling